

BJL

# **Notice of Allowability**

**Application No.**

10/736,235

**Examiner**

Hai C. Pham

**Applicant(s)**

NOJIMA ET AL.

**Art Unit**

2861

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Response filed 03/08/06.
2. ☒ The allowed claim(s) is/are 9-17.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

## **Attachment(s)**

- |  |  |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date <u>12/16/03</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                    |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material                               | 8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|  | 9. <input type="checkbox"/> Other _____.   |

***Election/Restrictions***

1. Applicant's election without traverse of Group II inclusive of claims 9-17 in the reply filed on 03/08/06 is acknowledged.

***Examiner's Amendment***

2. This application is now in condition for allowance except for the presence of claims 1-8 and 18-26 directed to Group I non-elected without traverse. Accordingly, claims **1-8** and **18-26** have been cancelled.

***Reasons For Allowance***

3. The following is an examiner's statement of reasons for allowance: Claims 9 and 11 are patentable over the prior art patents and printed publications because of the specific configuration of the exposure head, which comprises a long length of substrate on which an array of organic electroluminescent devices are arranged in at least one row, and a ball lens positioned in alignment with a light emitter of each organic electroluminescent device on the light-emitting side of the array of organic electroluminescent devices, wherein a space between adjacent lenses is filled with a fixing layer or an aerogel layer up to a height  $m(1 - 1/n^2)$  as measured from an apex of an entrance of said ball lens, where  $m$  is the diameter of the ball lens and  $n$  is a refractive index of said ball lens. The combined limitations as currently claimed are not taught by the prior art of record considered alone or in combination.

Claims 10 and 12-19 are allowed because they are directly or indirectly dependent from claims 9 and 11 above.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Pertinent Prior Art***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Domoto (JP 2001-121746) discloses an optical printer head comprising a light emitting element array chip arranged in a row on a substrate and having a porous silicon layer on which a columnar lens is disposed in alignment with the light-emitter of the array, the lens being fixed to the porous silicon layer by adhesive.

Mitsunaga (JP 1-146389) discloses a surface light emitting semiconductor laser array being coupled to a fiber lens aligned with the light-emitters in the row, the fiber lens being fixed with an adhesive agent and disposed from the light emitting points by a distance based at least on the radius of the fiber lens and the refractive index of the adhesive agent so as to control the convergence angle of the light beam exiting the fiber lens.

Horiuchi et al. (JP 58-039080) discloses a light emitting diode array, each light-emitting element being coupled to a ball lens, wherein the space between adjacent lenses is filled with a fixing layer.

Thornton (U.S. 5,337,074) discloses an opto-electronic line printer comprising an array of surface emitting semiconductor lasers, each of the light-emitting element being coupled to a ball lens by fixing the ball lens with an adhesive layer.

None of the prior art made of record teaches the height of the adhesive layer being set dependent on the diameter of the lens and the refractive index of the lens.

***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hai C. Pham whose telephone number is (571) 272-2260. The examiner can normally be reached on M-F 8:30AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vip Patel can be reached on (571) 272-2458. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2861

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



HAI PHAM  
PRIMARY EXAMINER

May 27, 2006